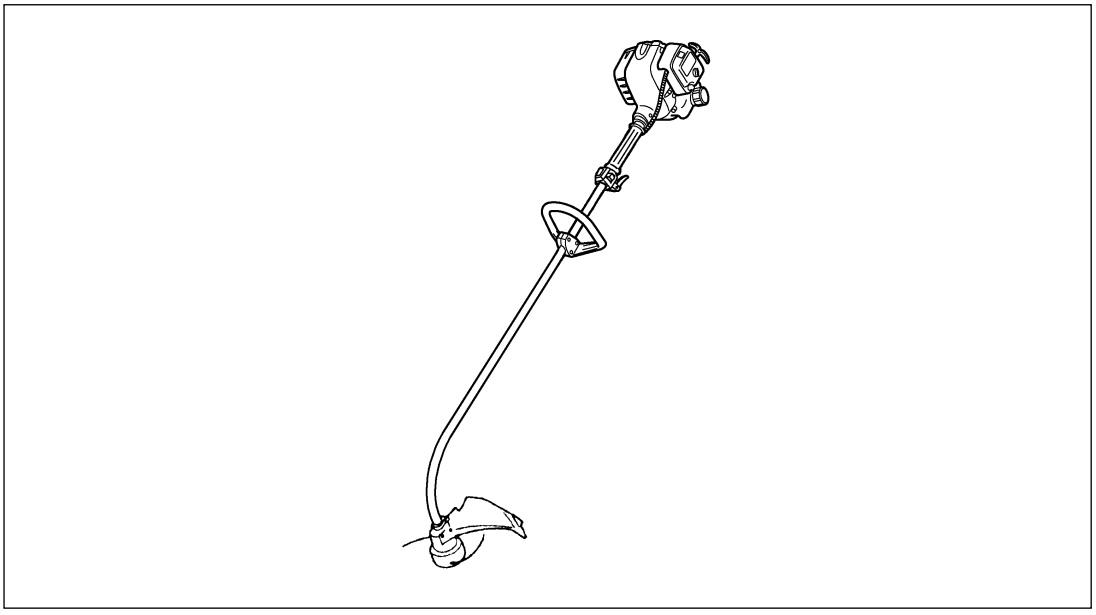
RedMax®

OWNER/OPERATOR MANUAL

LINE TRIMMER

BT250



⚠ WARNING ⚠

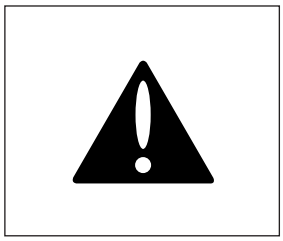
The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

⚠ WARNING ⚠

Before using our products, please read this manual carefully to understand the proper use of your unit.

APPLICABLE SERIAL NUMBERS :

DRIVE UNIT 40400101 and up	ENGINE UNIT KU40001 and up



⚠ SAFETY FIRST

Instructions contained in warnings within this manual marked with a ⚠ symbol concern critical points which must be taken into consideration to prevent possible serious bodily injury, and for this reason you are requested to read all such instructions carefully and follow them without fail.

■ WARNINGS IN THE MANUAL

⚠WARNING

This mark indicates instructions which must be followed in order to prevent accidents which could lead to serious bodily injury or death.

IMPORTANT

This mark indicates instructions which must be followed, or it leads to mechanical failure, breakdown, or damage.

NOTE

This mark indicates hints or directions useful in the use of the product.

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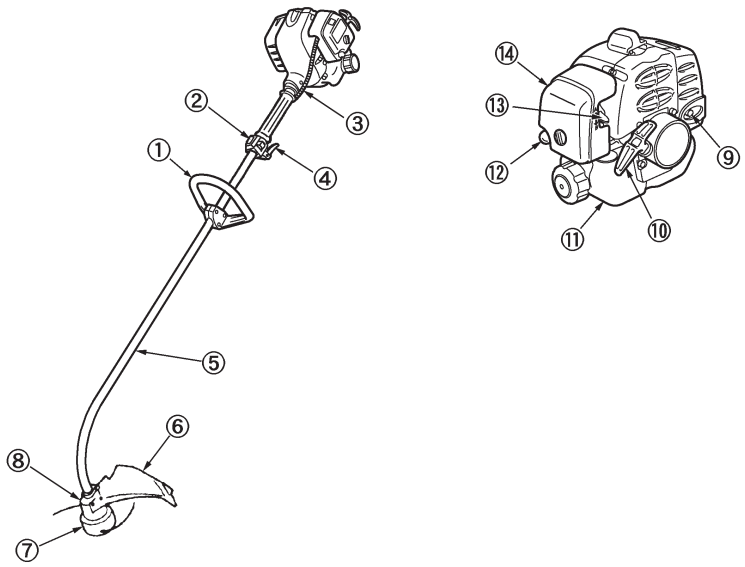
1. Parts location



1. Loop handle
2. Ignition switch
3. Throttle cable
4. Throttle lever
5. Drive shaft housing
6. Debris guard
7. Cutting line head
8. Gear case
9. Spark arrester
10. Starter knob
11. Fuel tank
12. Primer pump
13. Choke lever
14. Air cleaner cover

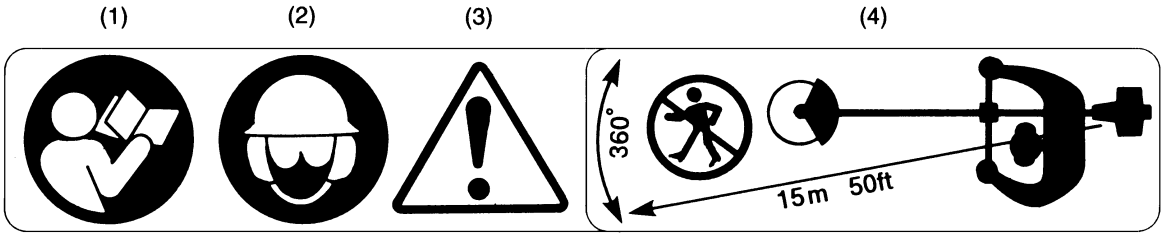
2. Specifications

■ **BT250**

Overall size(LxWxH) ····· 63.0(1600)x13.0(330)x12.0(305) in(mm)
Dry weight w/o acc. ····· 11.1 lbs (5.05kg)
Engine Type ····· Air-cooled 2-stroke gasoline
Model ····· Zenoah GT25N2
Displacement ····· 1.6cu-in (25.4cm^3)
Max. output ····· 1.2Hp at 8500 rpm
Fuel ····· Mixture(Gasoline 50 : Oil 1)
Carburetor ····· Walbro Diaphragm type
Spark plug ····· NGK BPMR7A
Fuel tank capacity ····· 22.3 fl.oz (0.62ℓ)
Transmission ····· Centrifugal clutch, Rigid driveshaft
Reduction ratio ····· 1.000
Cutting head rotating direction ····· Clockwise(Operator view)
Durability period ····· 50hrs.
Standard Accessories
3.5 in. 2-line Head ····· 1 pc.

Specifications are subject to change without notice.

3. Warning labels on the machine



(1) Read owner's manual before operating this machine.
(2) Wear head, eye and ear protection.
(3) Warning/Attention
(4) Keep all children, bystanders and helpers 15 meters away from the brushcutter

IMPORTANT

If warning label peel off or become soiled and impossible to read, you should contact the dealer from which you purchased the product to order new labels and affix them in the required location(s).

⚠WARNING

Never modify your brushcutter.
We won't warrant the machine, if you use the remodeled brushcutter or you don't observe the proper usage written in the manual.

4. Symbols on the machine

(a)

(b)

For safe operation and maintenance, symbols are carved in relief on the machine. According to these indications, please be careful not to make a mistake.

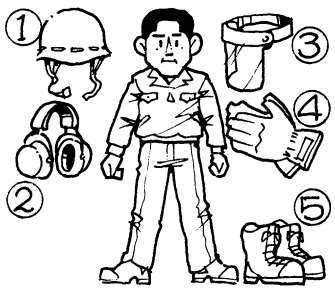
(a) The port to refuel the "MIX GASOLINE"
Position: FUEL TANK CAP

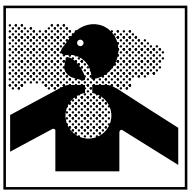
(b) The direction A to close the choke
The direction B to open the choke
Position: AIR CLEANER COVER

IMPORTANT ENGINE INFORMATION
THIS ENGINE CONFORMS TO 2004 U.S. EPA REGURATIONS FOR SMALL NONROAD ENGINES. EMISSIONS COMPLIANCE PERIOD: CATEGORY A
REFER TO OWNER'S MANUAL FOR FURTHER INFORMATION.
ENGINE FAMILY : 4HCPS.0254AD;EM
DISPLACEMENT: 25.4cc MANUFACTURED : Apr. 2004
RedMax
ZENOAH KOMATSU
KOMATSU ZENOAH CO.

INFORMATION IMPORTANTE CONCERNANT LE MOTEUR
CE MOTEUR EST CONFORME A LA REGLEMENTATION U.S. EPA 2004 POUR LES PETITS MOTEURS HORS-ROUTE. DUREE DE CONFORMITE DES EMISSIONS : CATEGORIE A.
SE REFERER AU MODE D'EMPLOI POUR DE PLUS AMPLES INFORMATIONS.
FAMMILLE DE MOTEUR : 4HCPS.025AD;EM
CYLINDREE : 25,4cm³ DATE DE FABRICATION : Avril 2004
RedMax
ZENOAH KOMATSU
KOMATSU ZENOAH CO.

⚠ 5. For safe operation





1. Read this manual carefully until you completely understand and follow all safety and operating instructions.
2. Keep this manual handy so that you may refer to it later whenever any questions arise. Also note, if you have any questions which cannot be answered herein, contact the dealer from whom you purchased the product.
3. Always be sure to include this manual when selling, lending, or otherwise transferring the ownership of this product.
4. Never allow children or anyone unable to fully understand the directions given in the manual to use the machine.

■ WORKING CONDITION

1. When using the product, you should wear proper clothing and protective equipment.

(1) Helmet
(2) Ear protectors
(3) Protection goggles or face protector
(4) Thick work gloves
(5) Non-slip-sole work boots

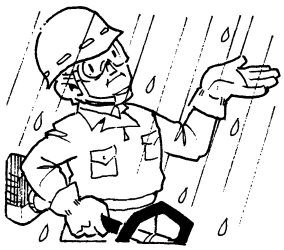
2. And you should carry with you.
   (1) Attached tools and files
   (2) Properly reserved fuel
   (3) Spare blade
   (4) Things to notify your working area (rope, warning signs)
   (5) Whistle (for collaboration or emergency)
   (6) Hatchet or saw (for removal of obstacles)

3. Do not wear loose clothing, jewelry, short trousers, sandals, or go barefoot. Do not wear anything which might be caught by a moving part of the unit. Secure hair so it is above shoulder length.

■ WORKING CIRCUMSTANCE

1. Never start the engine inside a closed room or building. Exhaust gases contain dangerous carbon monoxide.
2. Never use the product,
   a. when the ground is slippery or when you can't maintain a steady posture.

⚠ 5. For safe operation



b. At night, at times of heavy fog, or at any other times when your field of vision might be limited and it would be difficult to gain a clear view of the working area.
c. During rain storms, during lightning storms, at times of strong or gale-force winds, or at any other times when weather conditions might make it unsafe to use the product.

■ WORKING PLAN

1. You should never use the product when under the influence of alcohol, when suffering from exhaustion or lack of sleep, when suffering from drowsiness as a result of having taken cold medicine or at any other time when a possibility exists that your judgment might be impaired or that you might not be able to operate the product properly and in a safe manner.
2. When planning your work schedule, allow plenty of time to rest. Limit the amount of time over which the product is to be used continuously to somewhere around 30~40 minutes per session, and take 10~20 minutes of rest between work sessions. Also try to keep the total amount of work performed in a single day under 2 hours or less.

⚠WARNING

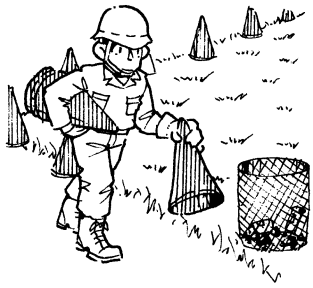
1. If you don't observe the working time, or working manner (See ■USING THE PRODUCT), Repetitive Stress Injury(RSI) could occur.
If you feel discomfort, redness and swelling of your fingers or any other part of your body, see a doctor before getting worse.

2. To avoid noise complaints, in general, operate product between 8a.m. and 5p.m. on weekdays and 9a.m. to 5p.m. weekends.

NOTE

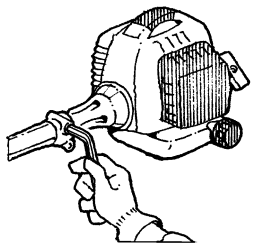
Check and follow the local regulations as to sound level and hours of operations for the product.

⚠ 5. For safe operation



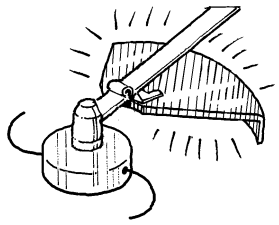
■ **BEFORE STARTING THE ENGINE**

1. The area within a perimeter of 50 feet (15m) of the person using the product should be considered a hazardous area into which no one should enter. If necessary yellow warning rope, warning signs should be placed around the perimeter of the area. When work is to be performed simultaneously by two or more persons, care should also be taken to constantly look around or otherwise check for the presence and locations of other people working so as to maintain a distance between each person sufficient to ensure safety.
2. Check the condition of working area to avoid any accident by hitting hidden obstacles such as stumps, stones, cans, or broken grass.

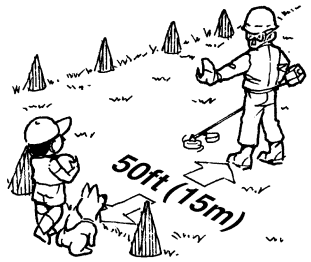


❗ IMPORTANT

Remove any obstacle before beginning work.

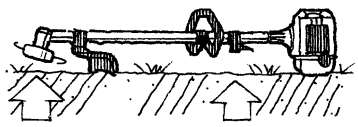


3. Inspect the entire unit for loose fasteners and fuel leakage. Make sure that the cutting attachment is properly installed and securely fastened.
4. Be sure the debris guard is firmly attached in place.
5. If the cutting head is the metal blade, use the shoulder strap. Adjust the strap for comfort before starting the engine. The strap should be adjusted so the left hand can comfortably hold the handlebar grip approximately waist high.



■ **STARTING THE ENGINE**

1. Keep bystanders and animals at least 50feet (15m) away from the operating point. If you are approached, immediately stop the engine.
2. The product is equipped with a centrifugal clutch mechanism, so the cutting attachment begins to rotate as soon as the engine is started by putting the throttle into the start position. When starting the engine, place the product onto the ground in a flat clear area and hold it firmly in place so as to ensure that neither the cutting part nor the throttle come into contact with any obstacle when the engine starts.



⚠ 5. For safe operation

⚠WARNING

Never place the throttle into the high speed position when starting the engine.

3. After starting the engine, check to make sure that the cutting attachment stops rotating when the throttle is moved fully back to its original position. If it continues to rotate even after the throttle has been moved fully back, turn off the engine and take the unit to your authorized Red Max servicing dealer for repair.

■ **USING THE PRODUCT**

❗ IMPORTANT

Cut only materials recommended by the manufacturer. And use only for tasks explained in the manual.

1. Grip the handles firmly with both hands using your whole hand. Place your feet slightly apart (slightly further apart than the width of your shoulders) so that your weight is distributed evenly across both legs, and always be sure to maintain a steady, even posture while working.
2. Keep cutting attachment below waist level.
3. Maintain the speed of the engine at the level required to perform cutting work, and never raise the speed of the engine above the level necessary.
4. If the unit start to shake or vibrate, turn off the engine and check the whole unit. Do not use it until the trouble has been properly corrected.
5. Keep all parts of your body away from rotating cutting attachment and hot surfaces.
6. Never touch the muffler, spark plug, or other metallic parts of the engine while the engine is in operation or immediately after shutting down the engine. Doing so could result in serious burns or electrical shock.

⚠ 5. For safe operation

- **IF SOMEONE COMES**

1. Guard against hazardous situations at all times. Warn adults to keep pets and children away from the area. Be careful if you are approached. Injury may result from flying debris.
2. If someone calls out or otherwise interrupts you while working, always be sure to turn off the engine before turning around.

■ MAINTENANCE

1. In order to maintain your product in proper working order, perform the maintenance and checking operations described in the manual at regular intervals.
2. Always be sure to turn off the engine before performing any maintenance or checking procedures.

⚠WARNING

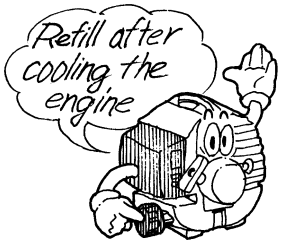
The metallic parts reach high temperatures immediately after stopping the engine.

3. When replacing the cutting attachment or any other part, or when replacing the oil or any lubricant, always be sure to **use only RedMax products or products which have been certified by RedMax for use with the RedMax product**.
4. In the event that any part must be replaced or any maintenance or repair work not described in this manual must be performed, please contact a representative from the store nearest RedMax authorized servicing dealer for assistance.
5. Do not use any accessory or attachment other than those bearing the RedMax mark and recommended for the unit.
6. Under no circumstances should you ever take apart the product or alter it in any way. Doing so might result in the product becoming damaged during operation or the product becoming unable to operate properly.

■ HANDLING FUEL

1. The engine of the RedMax product is designed to run on a mixed fuel which contains highly flammable gasoline. Never store cans of fuel or

⚠ 5. For safe operation



refill the tank of the unit in any place where there is a boiler, stove, wood fire, electrical sparks, welding sparks, or any other source of heat or fire which might ignite the fuel.

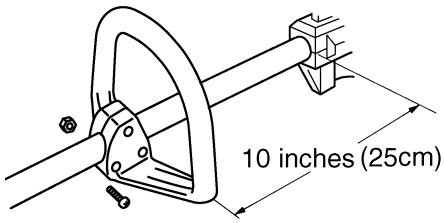
2. Never smoke while operating the unit or refilling its fuel tank.
3. When refilling the tank, always turn off the engine and allow it to cool down. Take a careful look around to make sure that there are no sparks or open flames anywhere nearby before refueling.
4. Wipe spilled fuel completely using a dry rag if any fuel spillage occurs during refueling.
5. After refueling, screw the fuel cap back tightly onto the fuel tank and then carry the unit to a spot 10feet (3m) or more away from where it was refueled before turning on the engine.

■ TRANSPORTATION

1. When hand-carrying the product, cover over the cutting part if necessary, lift up the product and carry it paying attention to the blade.
2. Never transport the product over rough roads over long distances by vehicle without removing all fuel from the fuel tank. If doing so, fuel might leak from the tank during transport.

6. Set up

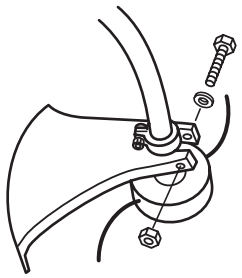
SE1



■ **INSTALLING HANDLE (SE1)**

- Mount the handle to the shaft tube and clamp it at your best operating position.

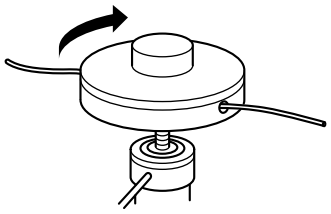
SE2



■ **INSTALLING DEBRIS GUARD (SE2)**

- Put the debris guard on the shaft tube near the gear box, attach it with the screw, washer and nut provided.

SE3



■ **INSTALLING CUTTING HEAD (SE3)**

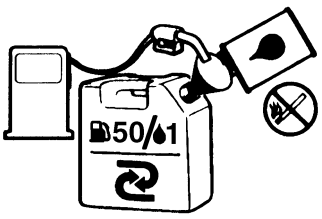
1. While locking the gear shaft by inserting the attached bar into the upper holder and the housing.
2. Rotate the cutting head to engage threads. Hand-tighten it securely.

7. Fuel

⚠WARNING

- **Gasoline is very flammable. Avoid smoking or bringing any flame or sparks near fuel. Make sure to stop the engine and allow it cool before refueling the unit. Select outdoor bare ground for fueling and move at least 3m (10ft) away from the fueling point before starting the engine.**

- The RedMax engines are lubricated by oil specially formulated for air-cooled 2-cycle gasoline engine use. If RedMax oil is not available, use an anti-oxidant added quality oil expressly labeled for air-cooled 2-cycle engine use. (JASO FC GRADE OIL or ISO EGC GRADE)
- Do not use BIA or TCW (2-stroke water-cooling type) mixed oil.



■ RECOMMENDED MIXING RATIO GASOLINE 50:OIL 1

50:1 MIXING CHART

GASOLINE gal.	1	2	3	4	5
2-CYCLE OIL fl.oz	2.6	5.2	7.8	10.4	13

GASOLINE liter	1	2	3	4	5
2-CYCLE OIL ml	20	40	60	80	100

- **Exhaust emission are controlled by the fundamental engine parameters and components(eq., carburation, ignition timing and port timing) without addition of any major hardware or the introduction of an inert material during combustion.**
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89 RON (USA/Canada: 87AL)
- If you use a gasoline of a lower octane value than prescribed, there is a danger that the engine temperature may rise and an engine problem such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasolines or oils may damage sealing rings, fuel lines or fuel tank of the engine.

■ HOW TO MIX FUEL

❗ IMPORTANT

Pay attention to agitation.

1. Measure out the quantities of gasoline and oil to be mixed.
2. Put some of the gasoline into a clean, approved fuel container.
3. Pour in all of the oil and agitate well.
4. Pour In the rest of gasoline and agitate

again for at least one minute. As some oils may be difficult to agitate depending on oil ingredients, sufficient agitation is necessary for the engine to last long. Be careful that, if the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.

5. Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.
6. Indicate the contents on outside of container for easy identification.

■ **FUELING THE UNIT**

1. Untwist and remove the fuel cap. Rest the cap on a dustless place.
2. Put fuel into the fuel tank to 80% of the full capacity.
3. Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

⚠WARNING

1. Select bare ground for fueling.
2. Move at least 10feet (3meters) away from the fueling point before starting the engine.
3. Stop the engine before refueling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.

FOR YOUR ENGINE LIFE, AVOID;

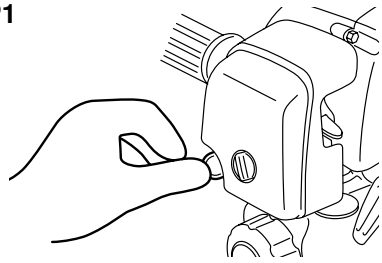
1. FUEL WITH NO OIL(RAW GASOLINE) – It will cause severe damage to the internal engine parts very quickly.
2. GASOHOL – It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication.
3. OIL FOR 4-CYCLE ENGINE USE – It can cause spark plug fouling, exhaust port blocking, or piston ring sticking.
4. **Mixed fuels which have been left unused for a period of one month or more** may clog the carburetor and result in the engine failing to operate properly.
5. In the case of storing the product for a long period of time, clean the fuel tank after rendering it empty. Next, activate the engine and empty the carburetor of the composite fuel.
6. In the case of scrapping the used mixed oil container, scrap it only at an authorized repository site.

NOTE

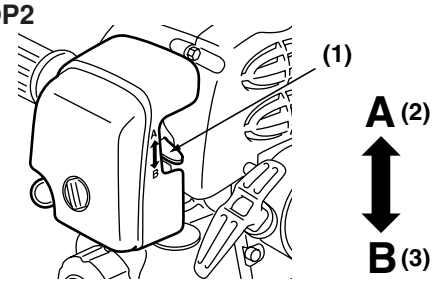
As lot details of quality assurance, read the description in the section Limited Warranty carefully. Moreover, normal wear and change in product with no functional influence are not covered by the warranty. Also, be careful that, if the usage in the instruction manual is not observed as to the mixed gasoline, etc. described therein, it may not be covered by the warranty.

8. Operation

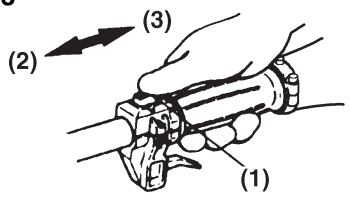
OP1



OP2



OP3



OP4

■ STARTING ENGINE

⚠WARNING

The cutting head will start rotating upon the engine starts.

1. Rest the unit on a flat, firm place. Keep the cutting head off the ground and clear of surrounding objects as it will start rotating upon starting of the engine.
2. Push the primer pump several times until overflown fuel flows out in the return tube. (OP1)
3. Move the choke lever to the closed position. (OP2)

(1) Choke lever (2) A: the closed position
(3) B: the open position

4. Set the ignition switch to the “start” position. (OP3)

(1) Ignition switch (2) Stop
(3) Start

5. While holding the unit firmly, pull out the starter rope quickly until engine fires. (OP4)

❗IMPORTANT

- Avoid pulling the rope to its end or returning it by releasing the knob. Such actions can cause starter failures.

6. Move the choke lever to the open position (OP2). And pull out the starter rope quickly to restart engine. (OP4)
7. Allow the engine to warm up for several minutes before starting operation.

NOTE

1. When restarting the engine immediately after stopping it, leave the choke open (OP2) and push the primer pump several times (OP4).
2. Overchoking can make the engine hard to start due to excess fuel. When the engine failed to start after several attempts, open the choke and repeat pulling the rope, or remove the spark plug and dry it.

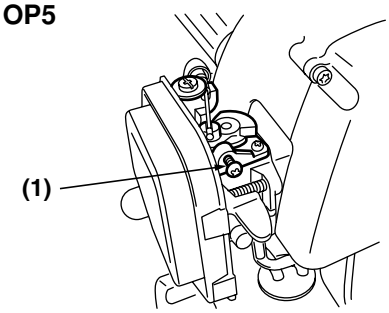
■ **STOPPING ENGINE**

1. Release the throttle lever and run the engine for a half minute.
2. Shift the ignition switch to the STOP position.

NOTE

- Except for an emergency, avoid stopping the engine while pulling the throttle lever.

OP5



■ **ADJUSTING IDLING SPEED (OP5)**

1. When the engine tends stop frequently at idling mode, turn the adjusting screw clockwise.
2. When the cutting head keeps rotating after releasing the trigger, turn the adjusting screw counter-clockwise.

(1) Idle adjustment screw

NOTE

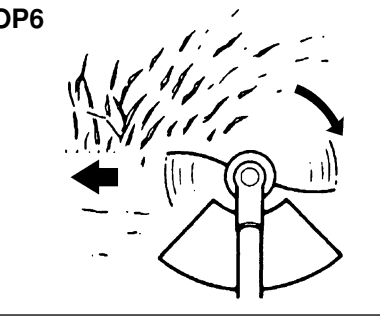
- Warm up the engine before adjusting the idling speed.

■ **LINE HEAD USAGE**

⚠WARNING

1. Always wear eye protection such as safety goggles. Never lean over the rotating cutting head. Rocks or other debris could be thrown into eyes and face and cause serious personal injury.
2. Keep the debris guard attached in place at all times when the unit is operated.

OP6



TRIMMING GRASS AND WEEDS

- Always remember that the TIP of the line does cutting. You will achieve better results by not crowding the line into the cutting area. Allow the unit to trim at its own pace.

1. Hold the unit so the head is off the ground and is tilted about 20 degrees toward the sweep direction. (OP6)
2. You can avoid thrown debris by sweeping from your right to the left.

3. Use a slow, deliberate action to cut heavy growth. The rate of cutting motion will depend on the material being cut. Heavy growth will require slower action than will light growth.
4. Never swing the unit so hard as you are in danger of losing your balance or control of the unit.
5. Try to control the cutting motion with the hip rather than placing the full workload on the arm and hands.
6. Take precautions to avoid wire, grass and dead, dry, long-stem weeds from wrapping around the head shaft. Such materials can stall the head and cause the clutch to slip, resulting in damage to the clutch system if repeated frequently.

ADJUSTING THE LINE LENGTH

- Your brushcutters is equipped with a semi- auto type nylon line head that allows the operator to advance the line without stopping the engine. When the line becomes short, lightly tap the head on the ground while running the engine at full throttle.
- Each time the head is bumped, the line advance about 1 inch(25.4 mm). For better effect, tap the head on bear ground or hard soil. Avoid bumping in thick, tall grass as the engine may stall by overload.

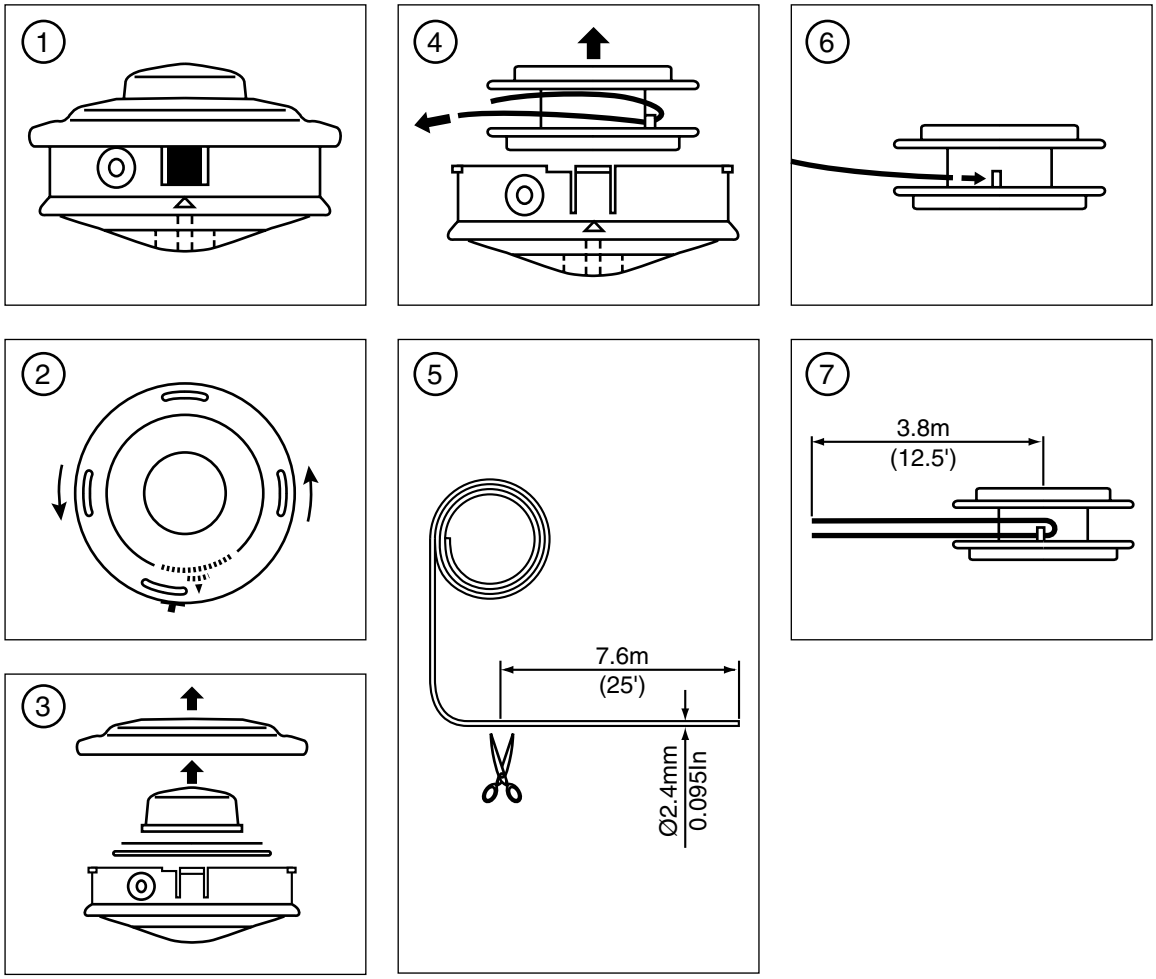
9. Maintenance

Maintenance, replacement, or repair of the emission control device and systems may be performed by any non-road engine repair establishment or individual.

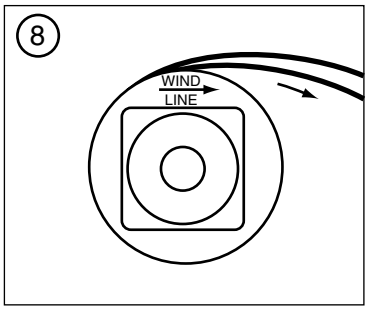
⚠WARNING

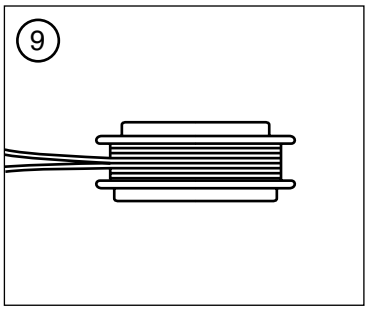
- **Always be sure to stop the engine before inspecting the brushcutter for problems or performing maintenance.**
- **Never alter the brushcutter or take the engine apart.**
- **When replacing parts, always be sure to use only RedMax products or products which have been certified by RedMax for use with the RedMax brushcutter.**
- **Things to check before using brushcutter.**

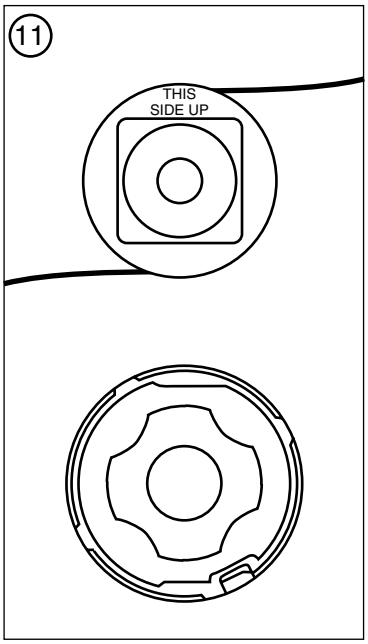
■ REFILLING TRIMMING LINE

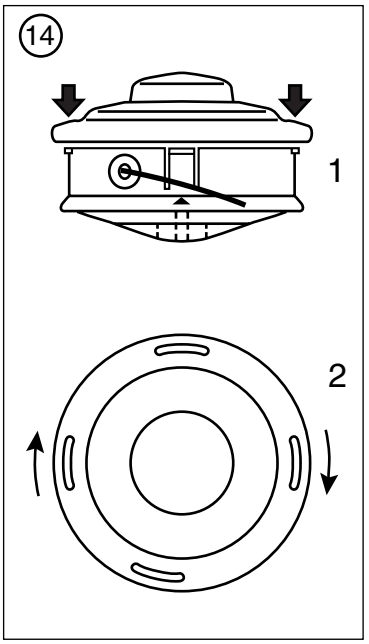


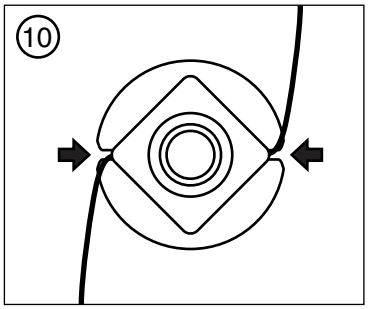
9. Maintenance

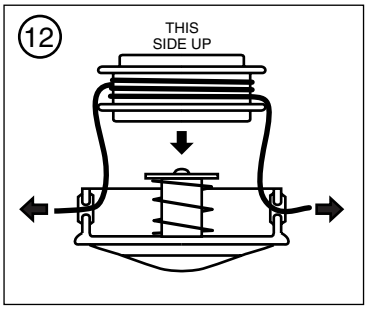


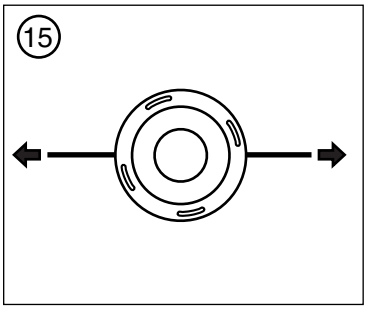


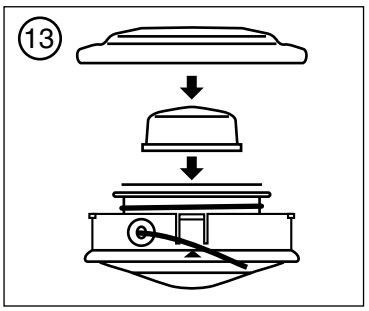






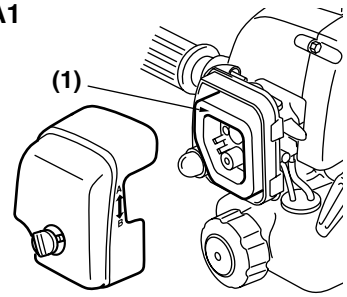




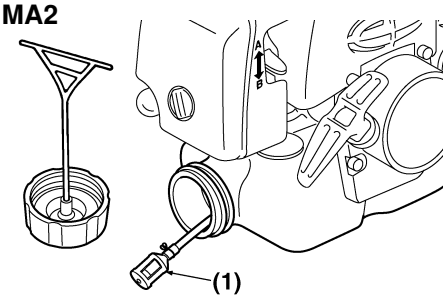


9. Maintenance

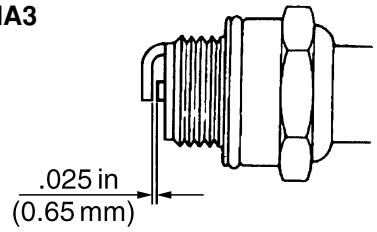
MA1



MA2



MA3



MA4

⚠WARNING

- **Make sure that the engine has stopped and is cool before performing any service to the brushcutter. Contact with moving cutting head or hot muffler may result in a personal injury.**

■ AIR FILTER

- The air filter, if clogged, will reduce the engine performance. Monthly check and clean the filter element in warm, soapy water as required. Dry completely before installing. If the element is broken or shrunk, replace with a new one. (MA1)

(1) Air filter

■ FUEL FILTER

- When the engine runs short of fuel supply, check the fuel cap and the fuel filter for blockage. (MA2)

(1) Fuel filter

■ SPARK PLUG

- Starting failure and mis-firing are often caused by a fouled spark plug. Periodically clean the spark plug and check that the spark gap is in the correct range. For a replacement plug, use the correct type specified by RedMax(See SPECIFICATIONS on the page 4). (MA3)
- When you take off the spark plug, twist (1) and pull off the cap (2). (MA4)

- **REPLACEMENT PLUG IS A CHAMPION RCJ6Y OR THE EQUIVALENT, SUCH AS BOSCH WSR8E OR NGK BPMR7A.**

❗IMPORTANT

- Note that using any spark plugs other than those designated may result in the engine failing to operate properly or in the engine becoming overheated and damaged.
- To install the spark plug, first turn the plug until it is finger tight, then tighten it a quarter turn more with a socket wrench.

TIGHTENING TORQUE: 87~104 in-lbs (9.8~11.8 N.m.)

■ **MUFFLER**

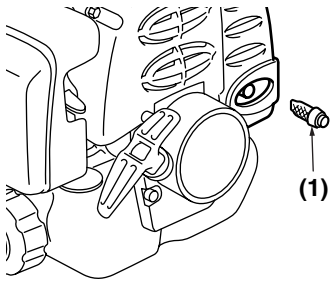
⚠WARNING

- **Inspect periodically, the muffler for loose fasteners, any damage or corrosion. If any sign of exhaust leakage is found, do not use the brushcutter and have it repaired immediately.**
- **Note that failing to do so may result in the engine catching on fire.**

■ **SPARK ARRESTER**

- The muffler is equipped with a spark arrester to prevent red hot carbon from flying out of the exhaust outlet. Periodically inspect and clean as necessary with a wire brush. In the State of California it is required by law (Section 4442 of the California Public Resources Code) to equip a spark arrester when a gas powered tool is used in any forest covered, brush covered, or grass covered unimproved land. (MA5)

MA5



(1) Spark arrester

■ **INTAKE AIR COOLING VENT**

⚠WARNING

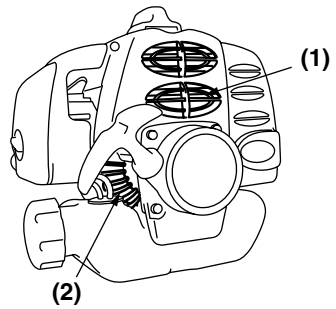
- **Never touch the cylinder, muffler, or spark plugs with your bare hands immediately after stopping the engine. The engine can become very hot when in operation, and doing so could result in severe burns.**
- **When checking the brushcutter to make sure that it is okay before using it, check the area around the muffler and remove any wood chips or leaves which have attached themselves to the brushcutter. Note that failing to do so could cause the muffler to become overheated, and that this in turn could cause the brushcutter to catch on fire. Always make sure that the muffler is clean and free of wood chips, leaves, and other waste before use.**
- Check the intake air cooling vent and the area around the cylinder cooling fins after every 25

hours of use for blockage, and remove any waste which has attached itself to the brushcutter. Note that it is necessary to remove the plug guard shown in Figure 20 in order to be able to view the upper part of the cylinder.

IMPORTANT

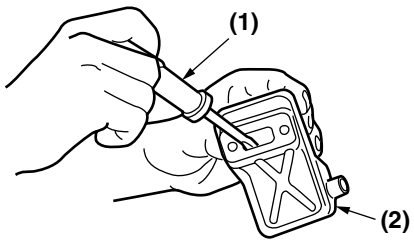
- If waste gets stuck and causes blockage around the intake air cooling vent or between the cylinder fins, it may cause the engine to overheat, and that in turn may cause mechanical failure on the part of the brushcutter. (MA6)

MA6



(1) Cylinder fin
(2) Intake air cooling vent (back)

MA7



■ PROCEDURES TO BE PERFORMED AFTER EVERY 100 HOURS OF USE

1. Remove the muffler, insert a screwdriver into the vent, and wipe away any carbon buildup. Wipe away any carbon buildup on the muffler exhaust vent at the same time. (MA7)

(1) Screwdriver
(2) Muffler

2. Tighten all screws, bolts, and fittings.
3. Check to see if any oil or grease has worked its way in between the clutch lining and drum, and if it has wipe it away using oil-free, lead-free gasoline.

10. Storage

- Aged fuel is one of major causes of engine starting failure. Before storing the unit, empty the fuel tank and run the engine until it uses all the fuel left in the fuel line and the carburetor. Store the unit indoor taking necessary measures for rust prevention.

11. Troubleshooting guide

Case 1. Starting failure

CHECK		PROBABLE CAUSES		ACTION
fuel tank	→	incorrect fuel	→	drain it and with correct fuel
fuel filter	→	fuel filter is clogged	→	clean
carburetor adjustment screw	→	out of normal range	→	adjust to normal range
sparking (no spark)	→	spark plug is fouled/wet	→	clean/dry
	→	plug gap is incorrect	→	correct (GAP: 0.6~0.7mm)
spark plug	→	disconnected	→	retighten

Case 2. Engine starts but does not keep running/Hard re-starting.

CHECK		PROBABLE CAUSES		ACTION
fuel tank	→	incorrect fuel or staled fuel	→	drain it and with correct fuel
carburetor adjustment screw	→	out of normal range	→	adjust to normal range
muffler,cylinder (exhaust port)	→	carbon is built-up	→	wipe away
air cleaner	→	clogged with dust	→	wash
cylinder fin, fan cover	→	clogged with dust	→	clean

When your unit seems to need further service, please consult with our RedMax service shop in your area.

12. Parts list

LINE TRIMMER

BT250

NOTE :

1. Use KOMATSU ZENOAH genuine parts as specified in the parts list for repair and/or replacement.
2. KOMATSU ZENOAH does not warrant the machines, which have been damaged by the use of any parts other than those specified by the company.
3. When placing parts orders for repair and/or replacement, check if the model name and the serial number are applicable to those specified in the parts list, then use parts number described in the parts list.
4. The contents described in the parts list may change due to improvement.
5. The parts for the machine shall be supplied seven (7) years after the machine is discontinued. [It is possible that some specific parts may be subject to change of their delivery term and list price within the limit of seven (7) years after the machine is discontinued. It is also possible that some parts may be available even after the limit of seven (7) years.]

March. 2004

APPLICABLE SERIAL NUMBERS :

DRIVE UNIT 40400101 and up	ENGINE UNIT KU40001 and up

12. Parts list

Fig.1 DRIVE UNIT BT250 (S/N 40400101 and up)

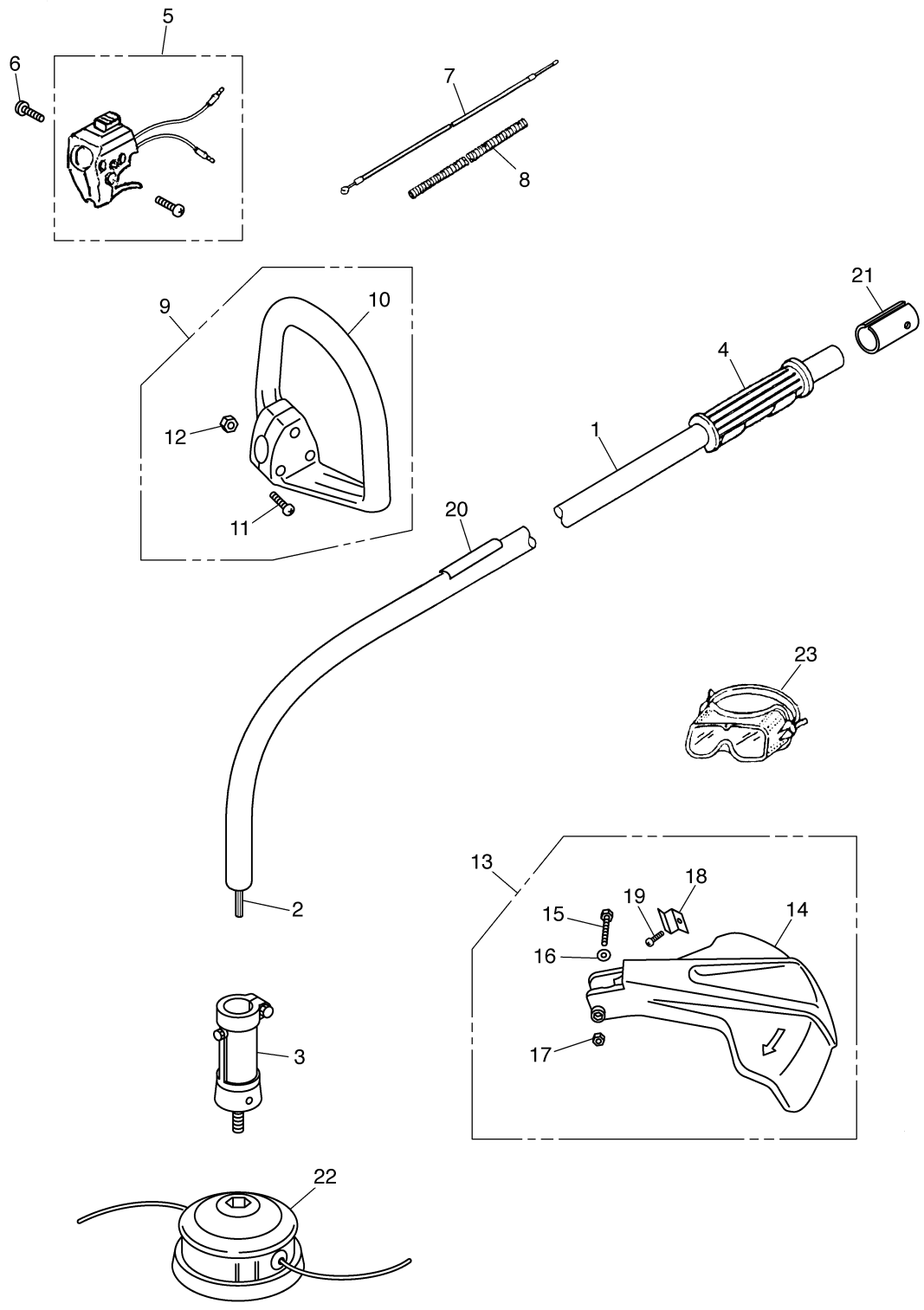


Fig.1 DRIVE UNIT BT250 (S/N 40400101 and up)

Key#	Part Number	Description	Q'ty
1	BT25-50810	PIPE COMP.	1
2	BT25-50710	DRIVE SHAFT	1
3	BT25-50910	HOUSING ASSY	1
4	BT25-50610	GRIP	1
5	BT25-50510	LEVER ASSY	1
6	BT25-50520	SCREW	1
7	1855-82100	CABLE ASSY	1
8	BT25-80100	TUBE	1
9	BT25-50400	HANDLE ASSY	1
10	BT25-50410	• HANDLE	1
11	0263-90530	• SCREW	3
12	B1181-000504	• NUT	3
13	BT25-80810	GUARD ASSY	1
14	BT25-80840	• GUARD	1
15	01000-69820	• BOLT	1
16	00311-06000	• WASHER	1
17	00217-06000	• NUT	1
18	BT25-80830	• BLADE	1
19	01500-69830	• SCREW	1
20	BT25-90910	PLATE, name	1
21	BT25-90810	SPACER	1
22	BT25-90100	TAP HEAD	1
23	T3002-91190	GOGGLE	1

Key#	Part Number	Description	Q'ty

12. Parts list

Fig.2 ENGINE UNIT BT250 (S/N KU40001 and up)

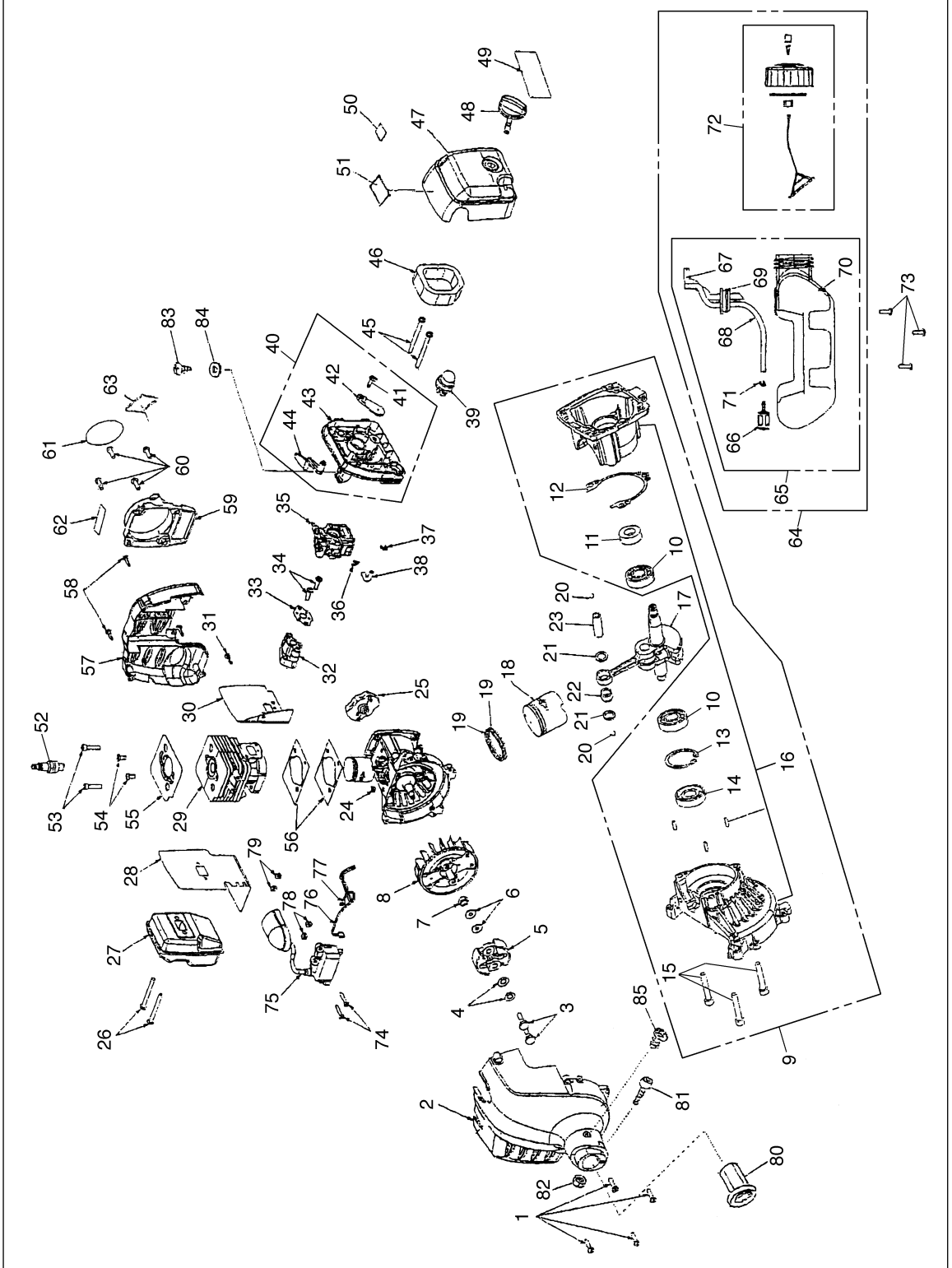


Fig.2 ENGINE UNIT BT250 (S/N KU40001 and up)

Key#	Part Number	Description	Q'ty
1	6634401	SCREW	4
2	3075406	FRONT HOUSING	1
3	6635301	SCREW CLUTCH	2
4	6969601	WASHER CURVED	2
5	3075603	CLUTCH ASSY	1
6	6969501	WASHER PLAIN	2
7	6968901	NUT	1
8	6457403	ROTOR	1
9	4309501	CRANKCASE&SHAFT ASSY	1
10	6968501	• BEARING	2
11	5987501	• SEAL	1
12	9071301	GASKET CASE	1
13	6968401	• RING	1
14	5687401	• SEAL	1
15	6634801	• SCREW	3
16	3075003	• CRANKCASE ASSY	1
17	3090101	CRANKSHAFT ASSY	1
18	6457303	PISTON	1
19	6969001	RING	2
20	6969101	CLIP RING	2
21	6968701	WASHER	2
22	6997001	NEEDLE BEARING	1
23	6230101	WRIST PIN	1
24	6968801	KEY	1
25	4300401	PULLEY ASSY	1
26	6634701	BOLT MAFFLER	2
27	3074802	MUFFLER & arrester	1
28	6300206	MUFFLER GASKET	1
29	6457003	CYLINDER	1
30	9071102	GASKET INSULATOR	1
31	6634502	SCREW TORX	1
32	5994702	INSULATOR	1
33	9071103	GASKET CABURETOR	1
34	6634402	SCREW TORX	2
35	3074502	CARBURETOR	1
36	6970001	CLIP HOSE	1
37	6969901	CLIP HOSE	1
38	5688002	PLASTIC RUBBER TUBING	1
39	3078001	PRIMER ASSY	1
40	3097402	CHOKE LEVER&PLATE ASSY	1
41	6634501	• SCREW TORX	1
42	5994601	• CHOKE PLATE	1
43	4315001	• CARBURETOR PLATE	1
44	5945801	• CHOKE LEVER	1
45	6634601	BOLT CARBURETOR	2
46	5687301	ELEMENT	1
47	3099904	COVER ASSY	1
48	5946101	KNOB	1
49	9506501	DECAL	1
50	9506009	DECAL(To Start)	1
51	9506011	DECAL(caution)	1
52	8714402	SPARK PLUG	1
53	6634201	CAP SCREW	2
54	6635102	SCREW TORX	2
55	6300221	PLATE FIN	1
56	9070901	GASKET CYLINDER	2
57	5947001	REAR HOUSING	1
58	6656301	SCREW TORX	3
59	3075304	RECOIL ASSY	1
60	6635101	SCREW TORX	4
61	9506401	DECAL STARTER	1
62	9506010	DECAL(E Start)	1
63	9509001	DECAL(EMISSION)	1
64	3075804	TANK&CAP ASSY	1
65	3075705	• TANK ASSY	1
66	3075904	•• FILTER	1
67	5687901	•• PIPE RETURN	1
68	5688001	•• PIPE FUEL	1
69	5687801	•• TANK GROMMET	1
70	5835901	•• TANK	1
71	6976501	•• CLIP	1
72	3075803	• CAP ASSY	1
73	6635401	BOLT TORX	3
74	6634901	BOLT TORX	2
75	2917803	COIL&BOOT ASSY	1
76	2914301	LEAD ASSY(BLACK)	1
77	2914302	LEAD ASSY(RED)	1
78	5946201	SPACER	2
79	6996901	WASHER	2
80	848-EU0-53D0	CUSHION	1
81	01252-30630	BOLT	1
82	1565-12140	NUT	1
83	2630-31950	SCREW	1
84	1484-86280	WASHER	1
85	5883-32160	SCREW	1

CALIFORNIA EMISSION CONTROL WARRANTY STATEMENT
YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board and KOMATSU ZENOAH are pleased to explain the **emission control system warranty** on your **1995 and later** small off-road engine. In California, new small off-road engines must be designed, built and equipped to meet the state's stringent anti-smog standards. KOMATSU ZENOAH must warrant the emission control system on your small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor and the ignition system.

Where a warrantable condition exists, KOMATSU ZENOAH will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

Manufacturer's warranty coverage:

The 1995 and later small off-road engines are warranted for **two years**. If any emission-related part on your engine is defective, the part will be repaired or replaced by KOMATSU ZENOAH.

Owner's warranty responsibilities:

– As the small off-road engine owner, you are responsible for the performance of the **required maintenance listed in your owner's manual**. KOMATSU ZENOAH recommends that you retain all receipts covering maintenance on your small off-road engine, but KOMATSU ZENOAH can not deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

– As the small off-road engine owner, you should be aware, however, that KOMATSU ZENOAH may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modification.

– You are responsible for presenting your small off-road engine to a KOMATSU ZENOAH distribution center as soon as a problem exists. The warranty repairs should be completed in e reasonable amount of time, not to exceed **30 days**.

If you have any questions regarding your warranty rights and responsibilities, you should contact KOMATSU ZENOAH AMERICA INC. at (770)-381-5147 or you can write to

KOMATSU ZENOAH AMERICA INC.
4344 Shackleford Road Suite 500
Norcross, Georgia 30093

RedMax
LIMITED WARRANTY

EMISSION-RELATED PARTS, FOR TWO (2) YEARS FROM THE DATE OF ORIGINAL DELIVERY OF THE UNIT, KOMATSU ZENOAH AMERICA INC. (THE COMPANY),
THROUGH ANY RedMax DEALER, WILL REPAIR OR REPLACE, FREE OF CHARGE, FOR THE ORIGINAL AND EACH SUBSEQUENT PURCHASER, ANY PART OR PARTS FOUND TO BE DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP. EMISSION-RELATED PARTS ARE:

THE CARBURETOR ASSY, COIL ASSY, ROTOR, SPARKPLUG,
AIR FILTER, FUEL FILTER, INTAKE MANIFOLD, AND THE GASKETS

ALL OTHER PARTS EXCEPT ABOVE PARTS, FOR TWO (2) YEARS OF HOME USE, NINETY (90) DAYS FOR COMMERCIAL USE FROM THE DATE OF ORIGINAL PURCHASE, THE COMPANY, THROUGH RedMax DEALER, WILL REPAIR OR REPLACE, FREE OF CHARGE, FOR THE ORIGINAL PURCHASER, ANY PART OF PARTS FOUND TO BE DEFECTIVE IN MATERIAL AND/OR WORKMANSHIP. **THIS IS THE EXCLUSIVE REMEDY.**

THE PURCHASER SHALL BEAR COSTS OF TRANSPORTING THE UNIT TO AND FROM THE RedMax DEALER.

THE PURCHASER SHALL NOT BE CHARGED FOR DIAGNOSTIC LABOR WHICH LEADS TO THE DETERMINATION THAT A WARRANTED PART IS DEFECTIVE, IF THE DIAGNOSTIC WORK IS PERFORMED AT THE RedMax DEALER.

THE PURCHASER OR OWNER IS RESPONSIBLE FOR THE PERFORMANCE OF THE REQUIRED MAINTENANCE AS DEFINED BY THE MANUFACTURER IN THE OWNER/OPERATOR MANUAL.

ANY WARRANTED PART WHICH IS NOT SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE, OR WHICH IS SCHEDULED ONLY FOR REGULAR INSPECTION TO THE EFFECT OF "REPAIR OR REPLACE AS NECESSARY" SHALL BE WARRANTED FOR THE WARRANTY PERIOD.ANY WARRANTED PART WHICH IS SCHEDULED FOR REPLACEMENT AS REQUIRED MAINTENANCE SHALL BE WARRANTED FOR THE PERIOD OF TIME UP TO THE FIRST SCHEDULED REPLACEMNET POINT FOR THE PART.

ANY REPLACEMENT PART THAT IS EQUIVALENT IN PERFORMANCE AND DULABILITY MAY BE USED IN NON-WARRANTY MAINTENANCE OR REPAIRS, AND SHALL NOT REDUCE THE WARRANTY OBLIGATION OF THE COMPANY.

THE COMPANY IS LIABLE FOR DAMAGES TO OTHER ENGINE COMPONENTS CAUSED BY THE FAILURE OF A WARRANTED PARTS STILL UNDER WARRANTY.

THE WARRANTY DOES NOT APPLY TO THOSE UNITS WHICH HAVE BEEN DAMAGED BY NEGLIGENCE OF INSTRUCTION LISTED IN THE OWNER/OPERATOR MANUAL FOR PROPER USE AND MAINTENANCE OF THE UNITS, ACCIDENTAL MISHANDLING, ALTERATION, ABUSE, IMPROPER LUBULICATION, USE OF ANY PARTS OR ACCESSARIES OTHER THAN THOSE SPECIFIED BY THE COMPANY, OR OTHER CAUSES BEYOND THE CONPANY'S CONTROL.

THIS WARRANTY DOES NOT COVER THOSE PARTS REPLACED BY NORMAL WEAR OR HARMLESS CHANGES IN THEIR APPEARANCE.

THERE ARE NO OTHER EXPRESS WARRANTIES.

IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE **ARE LIMITED** TO TWO (2) YEARS HOME OF USE, NINETY (90) DAYS FOR COMMERCIAL USE FROM THE ORIGINAL DELIVERY DATE.

LIABILITIES FOR INCIDENTAL OR CONSEQUENTIAL DAMAGE UNDER ANY AND ALL WARRANTIES ARE EXCLUDED.

SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMINATION OR EXCLUSION MAY NOT APPLY TO YOU.
THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
IF YOU NEED TO OBTAIN INFORMATION ABOUT THE NEAREST SERVICE CENTER, PLEASE CALL KOMATSU ZENOAH AMERICA INC. AT (770)-381-5147.

IMPORTANT: YOU WILL RECEIVE A WARRANTY REGISTRATION CARD AT TIME OF PURCHASE.PLEASE FILL OUT THE CARD AND SEND IT TO RedMax / KOMATSU ZENOA AMERICA WITHIN SEVEN (7) DAYS.BE SURE TO KEEP A COPY FOR YOUR RECORDS.

RedMax®

KOMATSU ZENOAH AMERICA INC.
4344 Shackleford Road Suite 500
Norcross, Georgia 30093

RedMax
Garantie limitée

Pièces en rapport avec les émissions de gaz d'échappement : KOMATSU ZENOAH AMERICA INC., par l'intermédiaire de n'importe quel revendeur RedMax, réparera gratuitement ou remplacera gratuitement pour l'acheteur initial et chaque acheteur successif toute(s) pièce(s) se révélant de constitution et/ou de montage défectueux pendant deux (2) ans à compter de la date initiale de livraison d'une unité. Les pièces en rapport avec les émissions de gaz d'échappement sont:

l'assemblage carburateur, l'assemblage bobine, le rotor, la bougie, le filtre à air, le filtre à carburant, la tubulure d'admission et les joints

Toutes les pièces autres que celles mentionnées ci-dessus, deux (2) ans d'utilisation domestique, quatre-vingt-dix (90) jours d'utilisation commerciale, à compter de la date d'achat initial. La société, par l'intermédiaire d'un distributeur RedMax, réparera ou remplacera toute(s) pièce(s), sans frais et au bénéfice de l'acheteur original, en prenant en charge les frais de pièces et/ou de main d'oeuvre. **Telles sont les limites de la garantie.**

Le coût du transport de l'unité jusqu'au revendeur RedMax et depuis celui-ci sera à la charge de l'acheteur.

L'acheteur ne supportera pas le coût de main d'oeuvre du diagnostic qui amène à la conclusion qu'une pièce garantie est défectueuse, si ce diagnostic est effectué chez le revendeur RedMax.

L'acheteur ou propriétaire a pour responsabilité d'effectuer l'entretien obligatoire tel que défini par le fabricant dans le manuel du propriétaire/de l'utilisateur.

Toute pièce garantie dont le remplacement n'est pas prévu dans le cadre de l'entretien obligatoire, ou pour laquelle est seulement prévue une inspection périodique pour "remplacement ou réparation si nécessaire" sera garantie pour la période de garantie. Toute pièce garantie arrivée à l'échéance de son premier remplacement prévu sera garantie jusqu'à celui-ci.

Toute pièce de rechange équivalente en performance ou en durabilité peut être utilisée pour l'entretien hors-garantie ou les réparations hors-garantie, et ce sans réduire l'obligation de garantie incombant à la société.

La société sera tenue responsable des dommages aux autres composants du moteur causés par la défaillance de pièce(s) garantie(s) en période de garantie.

La garantie ne s'applique pas aux unités endommagées par suite de: négligence dans la mise en oeuvre des instructions spécifiées dans le manuel du propriétaire/de l'utilisateur en vue d'une utilisation et d'un entretien correct, fausse manœuvre accidentelle, modification, utilisation abusive, lubrification incorrecte, utilisation de pièces ou d'accessoires autres que ceux spécifiés par la société, ou autres causes hors du contrôle de la société.

Cette garantie ne couvre pas les pièces remplacées en raison de leur usure normale ou de changements d'apparence sans effets.

Il n'existe aucune autre garantie explicite.

Les garanties implicites, y compris la valeur marchande et la valeur d'usage pour une utilisation particulière, **sont limitées** deux (2) ans d'utilisation domestique, quatre-vingt-dix (90) jours d'utilisation commerciale, à compter de la date originale de livraison.

Les responsabilités pour les dommage conséquents ou incidents sont exclues de toutes les garanties.

Certaines provinces n'autorisant pas les limitations à la durée des garanties implicites, ou les exclusions ou limitations relatives aux dommages incidents ou conséquents, la limitation indiquée ci-dessus peut ne pas vous être applicable.
Cette garantie vous donne des droits juridiques spécifiques, et vous pouvez également jouir d'autres droits variant d'une province à l'autre.
Si vous désirez obtenir des informations sur le centre de service le plus proche, veuillez appeler KOMATSU ZENOAH AMERICA INC. au (770)-381-5147

Note importante: vous recevrez une carte d'enregistrement de garantie au moment de l'achat. Veuillez la remplir et l'adresser à RedMax / KOMATSU ZENOAH AMERICA sous sept (7) jours en prenant soin de conserver une copie pour vous.

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